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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,267	08/14/2001	Hans-Wulf Pfeiffer	03466-P0001B	9985

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EXAMINER

HOFFMANN, JOHN M

ART UNIT PAPER NUMBER

1731

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,267

Applicant(s)

PFEIFFER, HANS-WULF

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The Final office action (6/10/04) indicated allowable claims. When preparing the application for allowance, the present Examiner could find no indication as to why the claims were indicated as containing patentable subject matter. Therefore the present Examiner needed to review all the facts in the case. It was then determined to withdraw both the final rejection and the indication of allowable subject matter.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The MPEP sets forth what must be considered to establish whether the enablement requirement is met.

2164.01(a) Undue Experimentation Factors

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

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- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

Examiner has considered these factors as follows:

(A) The claims are directed to all ceramic materials/workpieces –except for those which include zirconia. Thus the claim would encompass working on plate glass windows, common bricks, ceramic toilets, drinking glasses, enameled products, ceramets, carbon composites, etc. Broadly speaking, of man-made materials, there are types: metals, plastics and ceramics. In as sense, the claims encompass a massive genus of materials. One would have to expect some universal material property to be present, in order for the invention to work on the entire breadth of the claims. It is noted examiner does not agree with applicant's position that the claims are limited to "true ceramics" (whatever that would mean)

(B) The nature of the invention does not lend itself as evidence to show the invention is not enabled.

(C) The state of the prior art is that applicant's invention cannot be done.

Applicant's specification is clear that the state of the prior art would be one where one would not expect to be able to use the invention, (starting on page 4, line 2 "neither been known nor been applied in practice without elevating the temperature...it is presumed that due to brittle characteristics the mechanical stress...results in damage – not an increase of the strength". And in [0010] ceramic "components would simply be too brittle for resisting the blast energy". [0011] states "[i]n general, brittle, hard materials such as ceramics are denied to have the ability to undergo a plastic deformation at room temperature." [0013] says indicates that the type of processing the claims are directed to, "can, as a matter of nature, not be expected in ceramic materials". The Background section contains still further admissions which demonstrate with little doubt that one would expect that applicant's invention has no basis for

Rice 5228245, indicates such processing will work only on "certain materials" (col. 1, line 18); namely, a very small niche – those that have hafnia or zirconia. Thomas 3573023 indicates that aluminium oxide materials require an elevated-temperature environment.

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The prior art recognizes the invention to work in very limited instances: e.g. those ceramic materials that are actually composites with metals – for example cermets; and specialized materials of the type discussed in Rice.

(D) The level of one of ordinary skill does not lend itself as evidence to show the invention is not enabled.

(E) The level of predictablility in the art does not lend itself as evidence to show the invention is not enabled.

(F) The amount of direction provided by the inventor is low. There is no indication or suggestion as to what ceramics might work or what amount of force is needed to get the strengthening effect. The only thing indicated is that there is good direction on the type of tool needed (size and shape).

(G) There is no working example.

(H) The quantity of experimentation is unknown. The prior art indicates the invention would not work.

Given all the above factors, the references of record, and the specification, it is deemed the claims are not enabled. That applicant solved a decade-old problem, that the problem is a problem that the prior art suggests cannot be solved based on the "matter of nature", and that there is no evidence or examples provided that suggests that Applicant ever achieved the solution – it is deemed that a lack of enablement exists.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brookes in view of Thomas, Rokutanda, and the Abstract of JP 041098675.

See the rejection in the Office action of 12/24/2003 which discloses why the invention is obvious.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brookes, Thomas, or the Abstract of JP 041098675 in view of Rice.

See the rejection in the Office action of 4 September 12/24/2003 which discloses why the invention is obvious.

Response to Arguments

Applicant's arguments filed 3/24/2004 have been fully considered but they are not persuasive.

It is argued that Thomas is directed to "near ceramics" which are not actually ceramics. Also an affidavit was supplied to indicate what is meant by the term "ceramic". The main reason the affidavit was not persuasive: although it describes a reasonable definition, it does not describe the **broadest** reasonable interpretation. The broadest reasonable interpretation for "ceramic workpiece" would be: a workpiece which comprises at least one ceramic material. Thomas's cermet (as applicant points out) is "consisting of ceramics and metals". Since applicant admits there is some ceramic in

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the Thomas workpiece, it is clear that it comprises ceramic. The claims are comprising in nature and are open to having other materials –such as the metal that Thomas has. Or to put it another way: the affidavit is directed to “ceramics” but the claim is directed to “ceramic workpiece.

It is argued that Thomas does not teach or disclose plastic deformation. See col. 2, line 1 refers to creep. Creep is a plastic deformation. Furthermore, since Thomas does the same thing that applicant does, and gets the same result (strengthening) it is deemed that one would expect that this occurs through the same mechanism: plastic deformation. This is a prima facie showing that the plastic deformation will result. The burden is now on applicant to supply reasoning or evidence as to why one would not get plastic deformation in the Thomas process.

Conclusion

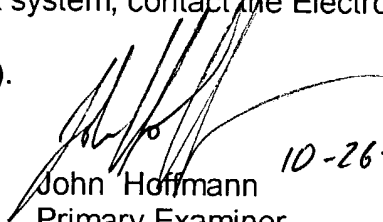
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Kingery reference is cited as being additional evidence that ceramics do not have appreciable plastic deformation and that strength of ceramics is statistical in nature.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Hoffmann
Primary Examiner
Art Unit 1731
10-26-04

jmh